Effects of interfacial stress on thin film LSCO by x-ray magnetic circular dichroism

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LSCO has a wide variety of potential applications, including being favored as a cathode material in solid oxide fuel cells. Interfacial stress effects can significantly alter the chemical and magnetic properties of LSCO thin films. These effects have been studied using x-ray magnetic circular dichroism. We observe that a magnetically inactive interlayer forms between LSCO and capping layers of varying lattice mismatch, and that this interlayer grows as interfacial stress increases.